

State of Maine 2006 HIV/AIDS Epidemiological Profile

**Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
Division of Infectious Disease
HIV, STD and Viral Hepatitis Program**

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Introduction

This Epidemiological Profile is designed to provide a comprehensive description of persons in Maine infected with HIV or at risk of HIV infection. The profile was developed by the Maine Center for Disease Control and Prevention (Maine CDC) to assist Maine HIV prevention and care planners and others interested in HIV epidemiology. The data selected are intended to provide a thorough description of the effect of HIV/AIDS on Maine's population in terms of geographic, sociodemographic, behavioral, and clinical characteristics. From these data and the accompanying analyses, this profile should serve as a useful planning tool to identify present and future needs and to set priorities for activities that help reduce HIV-related morbidity and mortality in Maine.

The epidemiological goals of this profile, as suggested by the U.S. Centers for Disease Control and Prevention (CDC) are as follows:

- Provide a thorough description of the HIV/AIDS epidemic among the various populations (overall and subpopulations) in the state.
- Describe the current status of HIV/AIDS cases in the state and provide some understanding of how the epidemic may look in the future.
- Identify characteristics of the general population and of populations who are living with, or at high risk for, HIV/AIDS in defined geographic areas and who need primary and secondary prevention or care services.
- Provide information required to conduct needs assessments and gap analyses.

To meet these goals, the profile will address three essential epidemiological questions:

1. What are the sociodemographic characteristics of the general population in Maine?
2. What is the scope of the HIV/AIDS epidemic in Maine?
3. What are the indicators of risk for HIV infection and AIDS in Maine's population?

Using available data, the profile will examine groups at risk for HIV infection and answer these core questions. The document relies heavily on disease data reported to Maine CDC by health care providers and laboratories. The document also considers local and national research concerning HIV risk behaviors and seroprevalence as well as US Census population data. In addition, the occurrence of sexually transmitted diseases (STDs) and populations at risk for STDs are described. There are some data-specific limitations to consider when using the profile and these are highlighted and discussed in the document. It is also important to note that the results of successful treatment and the expansion of surveillance data to include HIV infection may affect trend data.

This document was first published in 2005, using disease data that was current as of the end of 2004. This latest version includes updated data through the December 31, 2005. Section 1, based largely on U.S. Census data to examine the socio-demographic characteristics of the general population in Maine, was not updated for the 2005 Profile. Likewise, needs assessment data presented in Section 3.3 remain unchanged from the 2005 report. These sections will be updated in future editions of the Profile as new data become available.

A companion document, “Addendum: Ryan White Title II CARE Act Data” that includes data from the Ryan White Title II program was published in late 2005. These data examine care service utilization patterns among people living with diagnosed HIV/AIDS, as well as the characteristics of persons living with HIV who are not receiving primary medical care. This addendum is available upon request by contacting the HIV, STD and Viral Hepatitis Program at (207) 287-5196.

A note about data presented in tables: Data tables include both number and percent columns and totals. Percent totals may not equal 100 because percents within the table are rounded to the nearest whole number. As a result, some percent totals may appear to equal either 99% or 101%. Percent totals are always listed as the true total, or 100%.

What are the sociodemographic characteristics of the general population in Maine?

Question 1

Examining the general characteristics of Maine's population provides an important broader context for understanding Maine's HIV epidemic at the local level. This section will consider the geographic, demographic, and socioeconomic data available that describe Maine's population. Understanding the geographic distribution of Maine's residents, as well as their demographic and economic characteristics, helps to identify risk factors associated with HIV infection that may impact the delivery of HIV-related services.

1.1 Geographics

Maine is a geographically large and sparsely populated state. According to the 2000 US Census, approximately 55% of Maine's 1,274,923 residents live in rural communities, compared with 25% of the US population as a whole. There are 41.3 persons per square mile in the state versus 79.6 persons per square mile for the nation as a whole. Approximately one third of the population lives in one of three large population areas, known as "metropolitan statistical areas" or MSAs. MSAs are located in the Portland, Lewiston, and Bangor areas, with Portland as the largest MSA (222,000 persons). Vast areas of western, northern, and downeast Maine are thinly populated and access to medical services from many areas can be difficult.

Geographic data in this profile are presented by either county or region. Regions of residence are broad geographic categories that include multiple counties. The state has three definable regions – northern, central, and southern – that each include one MSA.

The northern region contains Aroostook, Hancock, Penobscot, Piscataquis, and Washington counties. Bangor, in Penobscot County, is the largest city in the northern region and one of Maine's three MSAs. The total population for the northern region according to the 2000 Census is 321,824.

The central region of the state consists of Androscoggin, Franklin, Kennebec, Knox, Lincoln, Oxford, Sagadahoc, Somerset, and Waldo counties. The twin cities of Lewiston and Auburn are located in Androscoggin County and make up an MSA in this region. The total population of these nine counties is 500,745.

The third region is the southern portion of the state and is comprised of Cumberland and York counties. Together, these counties contain 452,354 residents. This region includes the city of Portland, Maine's largest MSA.

1.2 Demographics

1.2.1 Age and Sex

Table 1.1 shows the distribution of Maine's population by age breakdown and sex. For males and females, nearly one-third were under 25 years of age, close to 30% were 25-44 years old, and male and female individuals over 65 years of age account for just over 14% of the total population.

Table 1.1 Distribution of the General Population in Maine, by Age Group and Sex, 2000

Age Group (yrs)	Males, %	Females, %	Total, %
	<i>n</i> = 620,309	<i>n</i> = 654,614	<i>N</i> = 1,274,923
<5	5.8	5.2	5.5
5-14	14.5	13.0	13.8
15-24	13.0	12.0	12.5
25-44	29.2	29.0	29.1
45-64	25.2	24.4	24.8
≥65	12.3	16.4	14.3

Source: US Census 2000 Summary File 1, <http://factfinder.gov>

1.2.2 Race and Ethnicity

The proportion of non-White and Hispanic residents in Maine is small--less than 4% in total as compared to almost 18% for the nation as a whole. Table 1.2 shows the percent distribution of the population by race/ethnicity and sex according to the 2000 Census. The greatest proportion of the population consists of Whites (about 97%). Other races alone account for less than 1% per race category. Hispanic residents make up 0.7% of Maine's population. Persons reporting two or more races account for 1% of the total population.

Table 1.2 Percentage Distribution of the Population in Maine, By Race/Ethnicity for Each Sex, 2000

Race	Males, %	Females, %	Total, %
	<i>n</i> = 620,309	<i>n</i> = 654,614	<i>N</i> = 1,274,923
White	96.9	97.0	96.9
Black	0.6	0.4	0.5
American Indian or Alaskan Native	0.6	0.6	0.6
Asian	0.6	0.8	0.7
Native Hawaiian/other Pacific Islander	<0.1	<0.1	<0.1
Some other race	0.2	0.2	0.2
≥ 2 races	1.0	1.0	1.0
Ethnicity			
Hispanic	0.8	0.7	0.7
Not Hispanic	99.2	99.3	99.3

Source: US Census 2000 Summary File 1, <http://factfinder.gov>

While there is geographic variability in the proportion of people of color in Maine's cities and counties, there are few identifiable areas of high minority population concentration. Table 3 shows the two counties in Maine, Washington and Cumberland Counties, that

have White populations that are slightly below the statewide average of 96.9%. In the northern region, Washington County has an American Indian/Alaskan Native population of 4.4%, the highest in the state. Of interest is that among American Indians in Maine, fewer than 30% live on the reservations in the state's five tribes. As seen in Table 1.3, Cumberland County, the largest county in Maine's southern region, has a more diverse racial population than any other Maine county. The White, non-Hispanic population still greatly exceeds other race categories, however. No counties in the central region of Maine have racial populations that differ significantly from the state as a whole.

Table 1.3 Percentage Distribution of the Population in Maine, by Race/Ethnicity and County Subpopulation, 2000

	Washington County	Cumberland County
	<i>n</i> = 33,941	<i>n</i> = 265,612
Race		
White	93.2	95.2
Black	0.3	1.1
American Indian or Alaskan Native	4.4	0.3
Asian	0.3	1.4
Native Hawaiian/Other Pacific Islander	<0.1	<.1
Some other race	0.4	0.3
≥ 2 races	1.1	1.1
Ethnicity		
Hispanic	0.8	1.0
Not Hispanic	99.2	99.0

Source: US Census 2000 Summary File 1, <http://factfinder.gov>

Year 2000 Census figures show that foreign-born persons account for 2.9% of Maine's population (11.1% of the US population as a whole is foreign-born). Cultural and language issues are critical for this population. Nearly 8% of Maine residents over five years of age report speaking a language other than English in the home (this figure is 11.1% for the nation as a whole). Maine has a relatively high proportion of Franco-Americans living in the state. Data from the 2001 US Census Supplementary Survey indicate that French and French-Canadian ancestry represents 21% of all ancestries reported by Maine residents, compared to 4% for the nation as a whole (US Census 2000). Some cities (Biddeford and Lewiston, among others) and areas of northern Maine have significantly greater proportions of Franco-American residents. Issues related to culture, socioeconomic status, and religion among Franco-Americans may influence public health prevention strategies.

1.2.3 Population Estimate, 2003

The US Census Bureau's 2003 total population estimate for the state of Maine is 1,305,728. The percent change in population from April 1, 2000 to July 1, 2003 is estimated to be 2.4%. This is slightly below the estimated percent change in population for the nation as a whole for the same time period (3.3%). Maine experienced a 3.8% increase in population from the 1990 Census to the 2000 Census. This is just under one-third the population growth experienced nationally (13.1%).

1.3 Socioeconomic Status

1.3.1 Poverty

As of 1999, 10.9% of individual Maine residents were living below the poverty line (US: 12.4%). At the same time, median household income (\$37,240) falls below the reported US median household income (\$41,994). Per capita money income for Maine residents is also well below the US amount (\$19,533 vs. \$21,587). Slightly less than 8% of Maine's families are living below the poverty level, which is less than the US as a whole (9.2%). However, among families with young children headed by women, poverty rates are significantly higher in Maine (54.7%) than for the US (46.4%).

Table 1.4 Percentage of the Population Under the Poverty Level by County

County	Under poverty level, %
Washington	19.9
Somerset	14.9
Piscataquis	14.8
Franklin	14.6
Aroostook	14.3
Waldo	13.9
Penobscot	13.7
Oxford	11.8
Androscoggin	11.1
Kennebec	11.1
Entire state	10.9
Hancock	10.2
Knox	10.1
Lincoln	10.1
Sagadahoc	8.6
York	8.2
Cumberland	7.9

Source: 1999 model-based estimates, <http://quickfacts.census.gov>

Table 1.4 shows the percentage of individuals below poverty for Maine's 16 counties. Ten of 16 counties in Maine had a higher proportion of residents living below the federal poverty level than the state proportion of 10.9%. Washington County had the highest proportion, with almost double the statewide rate. Other counties with elevated proportions included Somerset, Piscataquis, Piscataquis, Franklin, and Aroostook, all in the northern and central regions of the state. The counties with the lowest proportion of residents living below the poverty level were Cumberland and York, both in the Southern Region.

1.3.2 Educational Attainment

Table 1.5 considers Maine's 2000 population of individuals 25 years of age and older with a high school diploma or higher or bachelor's degree or higher. As with poverty levels, educational attainment tended to be lower in the northern and central regions of the state. Counties with the lowest proportions of high school graduates included Aroostook, Androscoggin, Washington, Piscataquis and Somerset. Those with the highest proportion of graduates included Cumberland and Sagadahoc. In general,

those counties with lower proportions of high school graduates also had lower rates of bachelor degree attainment.

Table 1.5: Percentage of the Population 25 Years and Older, with High School Diplomas or Higher or with Bachelor's Degree or Higher, 2000

County	High school diploma or higher, %	Bachelor's degree or higher, %
Aroostook	76.9	14.6
Androscoggin	79.8	14.4
Washington	79.9	14.7
Piscataquis	80.3	13.3
Somerset	80.8	11.8
Oxford	82.4	15.7
Waldo	84.6	22.3
Franklin	85.2	20.9
Kennebec	85.2	20.7
Entire state	85.4	22.9
Penobscot	85.7	20.3
York	86.5	22.9
Knox	87.5	26.2
Hancock	87.8	27.1
Lincoln	87.9	26.6
Sagadahoc	88.0	25.0
Cumberland	90.1	34.2

Source: 1999 model-based estimates, <http://quickfacts.census.gov>

1.3.3 Health Insurance Coverage

Health insurance coverage is an important indicator for access to preventive care and health services. Table 1.6 provides a breakdown of insurance status for Maine's population as a whole as well as for adults aged 19 to 64. Comparisons with US insurance status figures are included.

Table 1.6: Insurance Status in Maine and the US

	Maine	US	Maine	US
Insurance Status	All age groups, % N = 1,272,010	All age groups, % N = 287,368,410	Adults 19-64, % n = 779,590	Adults 19-64, % n = 175,111,560
Employer	51	54	63	64
Individual	5	5	6	6
Medicaid	18	13	14	8
Medicare	15	12	2	2
Uninsured	11	16	15	20

Source: Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on pooled March 2003 and 2004 Current Population Surveys. Total US numbers are based on March 2004 estimates.

The percentage of uninsured individuals in Maine is less than the US percentage for both the total population and for adults aged 19 to 64. For both groups, however, the number of individuals covered by Medicaid is significantly higher than the US figure.

The percentage of individuals aged 19 to 64 on Medicaid in Maine is close to twice the percentage for the US as a whole.

1.4 Key Points

- Maine is a large, sparsely populated state, with more than half the population residing in rural communities.
- Nearly one-third of Maine's population is under 24 years-old.
- The proportion of Hispanic and non-White residents in Maine is small – less than 4% in total as compared to almost 18% for the nation as a whole.
- Between 1990 and 2000, Maine's population grew by only 3.8%, less than one-third the rate of national population growth. As of 2003, Maine's overall population was estimated to be 1,305,728.
- Per capita income for Maine residents is below the US amount (\$19,533 vs. \$21,587), but a smaller proportion of Maine families are living below the poverty level (8% vs. 9%).
- Counties in northern and central Maine tended to have lower proportions of high school and college graduates than southern Maine and higher proportions of people living below the federal poverty level.

What is the scope of the HIV/AIDS epidemic in Maine?

Question 2

This section of the Profile examines the extent and affect of the HIV/AIDS epidemic in Maine. The most recent data available by calendar year, January 1 to December 31, 2005, will be presented, along with data about trends. The number and percentage distribution of new HIV cases by age group, sex, exposure category, and race/ethnicity will be examined. Regional data will also be presented in this section.

2.1 Data Sources and Limitations

HIV and AIDS are both “notifiable conditions,” meaning that physicians, clinical laboratories, and public clinics are required by law to report information about HIV and AIDS diagnoses. Information included in these disease reports includes patient data such as age, sex, race, HIV risks, and town of residence. These data are used to help better understand the scope of the epidemic in Maine, and are crucial for planning, implementing and evaluating HIV-related care and prevention programs.

Although care is taken to ensure that disease reports are made in a timely and accurate manner, disease report data are not perfect. For example, public health data only include information about people who see health care providers; those who don’t seek care are not reflected in HIV/AIDS data. This includes individuals who are living with HIV or AIDS but don’t know about their infection because they have not been tested. In addition, public health data do not take into account changes in town, county or state of residence. Finally, there may be delays or lapses in reporting by physicians or laboratories.

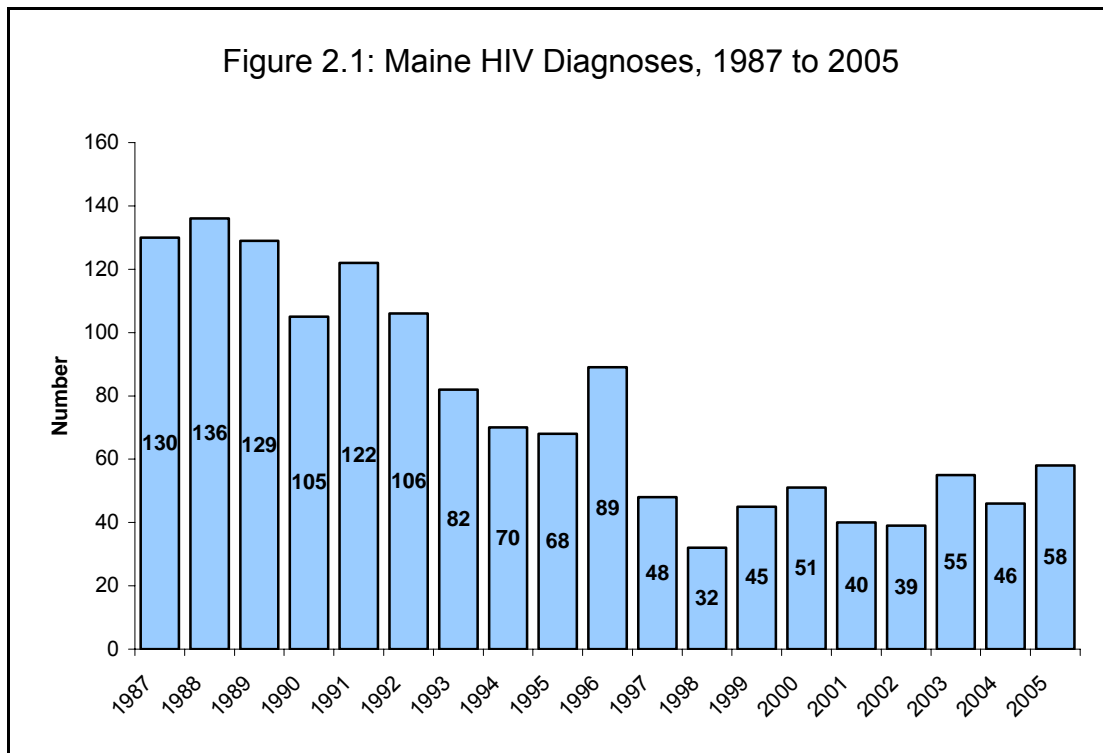
Because of these limitations, it is important to remember that the public health data reported here represent **estimates** and not exact counts of people living with HIV and AIDS in Maine.

2.2 HIV Incidence

Since Maine CDC began recording new HIV diagnoses in 1987, more than 1,500 positive HIV tests have been reported in the state. As has been seen nationally, the annual incidence of HIV-positive diagnoses in Maine has declined from more than 100 positive test reports in the late 1980s and early 1990s, to roughly half that number in more recent years.

Approximately 45% of individuals diagnosed with HIV during the past 5 years were ill enough to be classified with AIDS within one year of testing positive, probably indicating that they had been infected for a long while before diagnosis.

Figure 2.1 (next page) illustrates annual totals of new HIV diagnoses in Maine, spanning the years 1987 to 2005. During 2005, 58 people in Maine received a new diagnosis of HIV infection.



2.3 AIDS Incidence

Figure 2.2 (next page) illustrates Maine AIDS diagnoses and deaths among persons with AIDS, by year, from 1982 to 2005. Forty-five people were diagnosed with AIDS in Maine during 2005, with 12 deaths. The number of 2005 cases may increase during 2006 because of reporting delays.

The figure shows a general decline in both new diagnoses and deaths, with the numbers of deaths in recent years at their lowest point since the 1980s. Like HIV, the numbers of new diagnoses have remained steady during the past several years. Overall declines in diagnoses and deaths among persons with AIDS are due in large part to widespread use of effective medical treatments for HIV disease.

2.4 Increasing AIDS Prevalence

Figure 2.3 (next page) shows three trend lines spanning the years 1984 to 2005. The trend data describe new Maine AIDS diagnoses by year of diagnosis; annual deaths; and the total number of people living with AIDS.

Each year since 1985 there have been more new AIDS diagnoses than deaths in Maine, meaning that the overall number of people living with AIDS has continued to increase over time. These data suggest that there are more people living with HIV/AIDS in Maine than ever before. Of 1,075 Maine AIDS diagnoses, an estimated 484 were living at the end of 2005. This does not include people who were diagnosed with AIDS in another state and subsequently moved to Maine.

Figure 2.2: Maine AIDS Cases and Deaths Among Persons with AIDS, 1984-2005

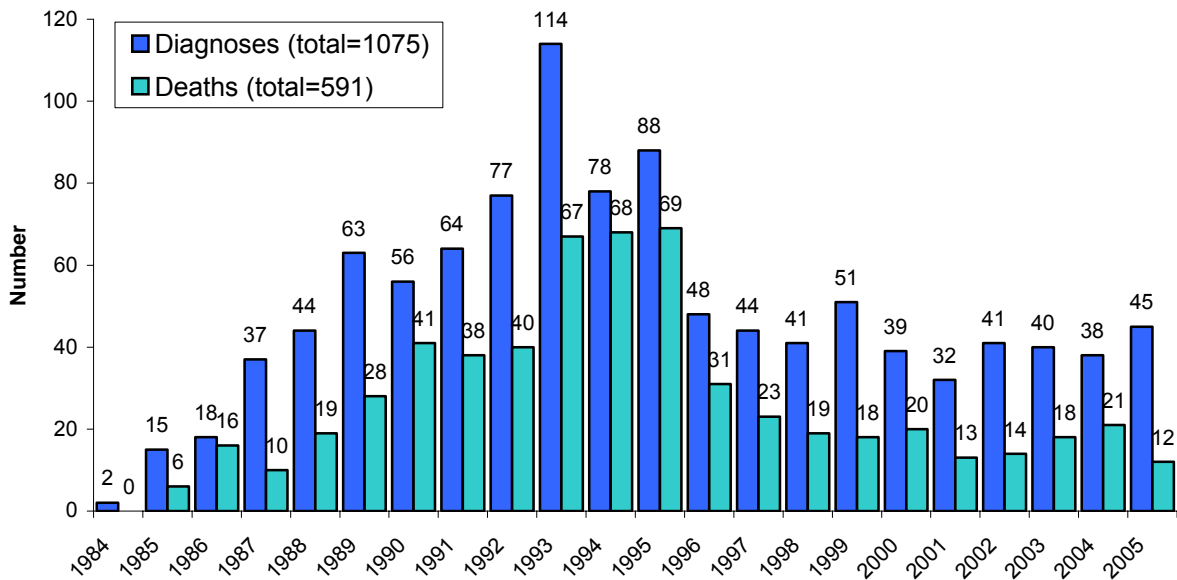
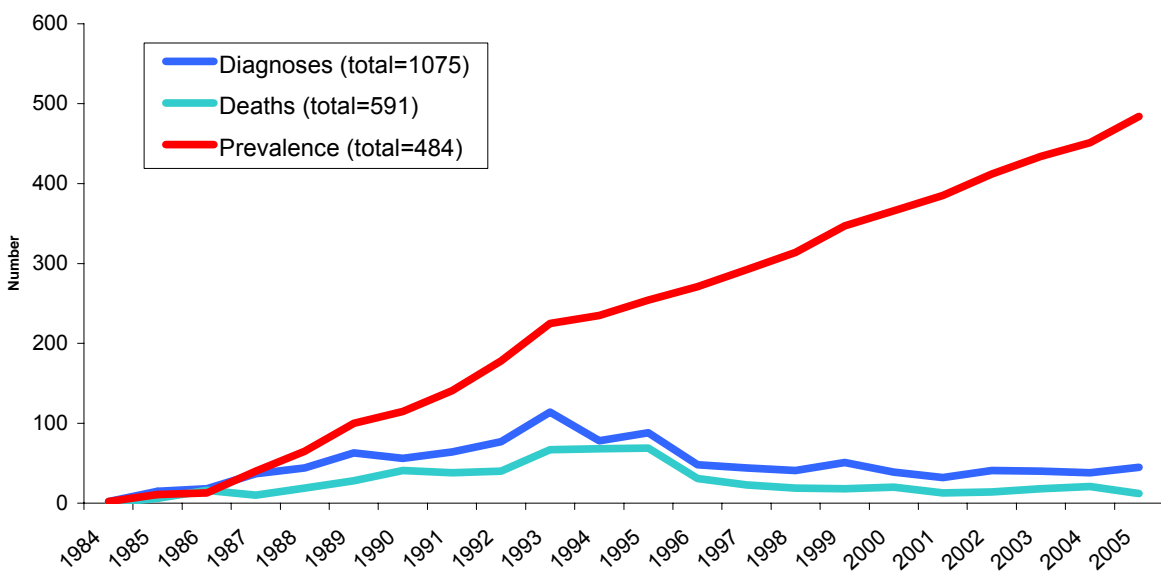


Figure 2.3: Maine AIDS Cases, Deaths and Prevalence, 1984 to 2005



2.5 HIV/AIDS Prevalence Estimate

HIV/AIDS prevalence refers to the number of people living in the state with HIV, including those who have an AIDS diagnosis. Just under 1,100 people were estimated to be living in Maine with diagnosed HIV infection as of December 31, 2005. This includes individuals who were diagnosed with HIV and/or AIDS in Maine, along with people who were diagnosed elsewhere and subsequently moved to the state. An additional 400-555 individuals may be unknowingly infected with the virus, for a total estimate of 1,500 to 1,600 people living with HIV/AIDS in Maine.

Where does this estimate come from?

The Maine HIV/AIDS prevalence estimate was obtained using a method suggested by CDC, which involves dividing the number of persons with a diagnosis of HIV (including AIDS) by the estimated range of persons living with HIV infection. Specific steps are outlined below:

- At the end of 2005, there were an estimated 1,100 people living with diagnosed HIV/AIDS in Maine. Maine CDC estimates that HIV/AIDS case reporting is approximately 95% complete, meaning that information concerning 95% of all HIV/AIDS diagnoses is reported to Maine CDC by doctors and labs.
- Using this information, an approximate number of people living with HIV who were not reported to Maine CDC may be calculated as follows:
$$\begin{aligned} &= 1,100 \times ([1/0.95] - 1) \\ &= 1,100 \times (1.05 - 1) \\ &= 1,100 \times 0.05 \\ &= 55 \text{ persons with HIV/AIDS but unreported to Maine CDC} \end{aligned}$$
- Therefore, the total number of persons living with AIDS and HIV in Maine who know their status is:
$$\begin{aligned} &= 1,100 + 55 \\ &= 1,155. \end{aligned}$$
- CDC estimates that between 71% and 79% living with HIV know their status. Using this estimate, the total number of people living in Maine with HIV may be calculated as follows:
$$\begin{aligned} &= 1,155/0.79 \text{ to } 1,155/0.71 \\ &= 1,462 \text{ to } 1,626 \end{aligned}$$
- Rounded to the nearest 100:
$$= \mathbf{1,500 \text{ to } 1,600}$$

2.6 Ranking HIV/AIDS Mortality

Maine CDC estimates that during 2003 eight (2%) of the 475 deaths among individuals 25 to 44 years of age in Maine were attributed to HIV. Table 2.1 lists the top 10 causes of death in Maine for persons 25 to 44 years of age during 2003. HIV is the seventh leading cause of death among this age group.

Table 2.1 Ranking of 10 Leading Causes of Death in Maine among Persons 25-44 Years of Age, 2003

Cause of Death	Ranking	Deaths, # (N = 475)	Total Deaths, %
Unintentional Injury	1	142	30
Malignant Neoplasms	2	89	19
Heart Disease	3	65	14
Suicide	4	44	9
Cerebrovascular	5	13	3
Diabetes Mellitus	6	11	2
HIV	7	8	2
Liver Disease	8	7	1
Homicide	8	7	1
Influenza and Pneumonia	9	6	1

Source: Maine CDC

2.7 Demographic Characteristics of People living in Maine with Diagnosed HIV/AIDS

Tables below highlight age group, sex, exposure category, and race/ethnicity for people living in Maine with diagnosed infection. In each table, data are presented for 2005 HIV diagnoses (incident cases), and also for people living with diagnosed HIV/AIDS (prevalent cases). This second category includes all people living in Maine with diagnosed AIDS and HIV whose diagnoses were reported to Maine CDC; it does *not* include information about people with HIV who have not yet been tested. It also doesn't include information about people with HIV/AIDS who have died, or people who's HIV diagnosis was not reported to Maine CDC.

Data about 2005 incident cases are presented alongside data about prevalent cases to compare very recent diagnoses with the overall population of persons living with HIV in Maine.

In addition to these comparative tables, five-year trend data are presented that compare HIV incident cases from 2001 to 2005.

2.7.1 Sex

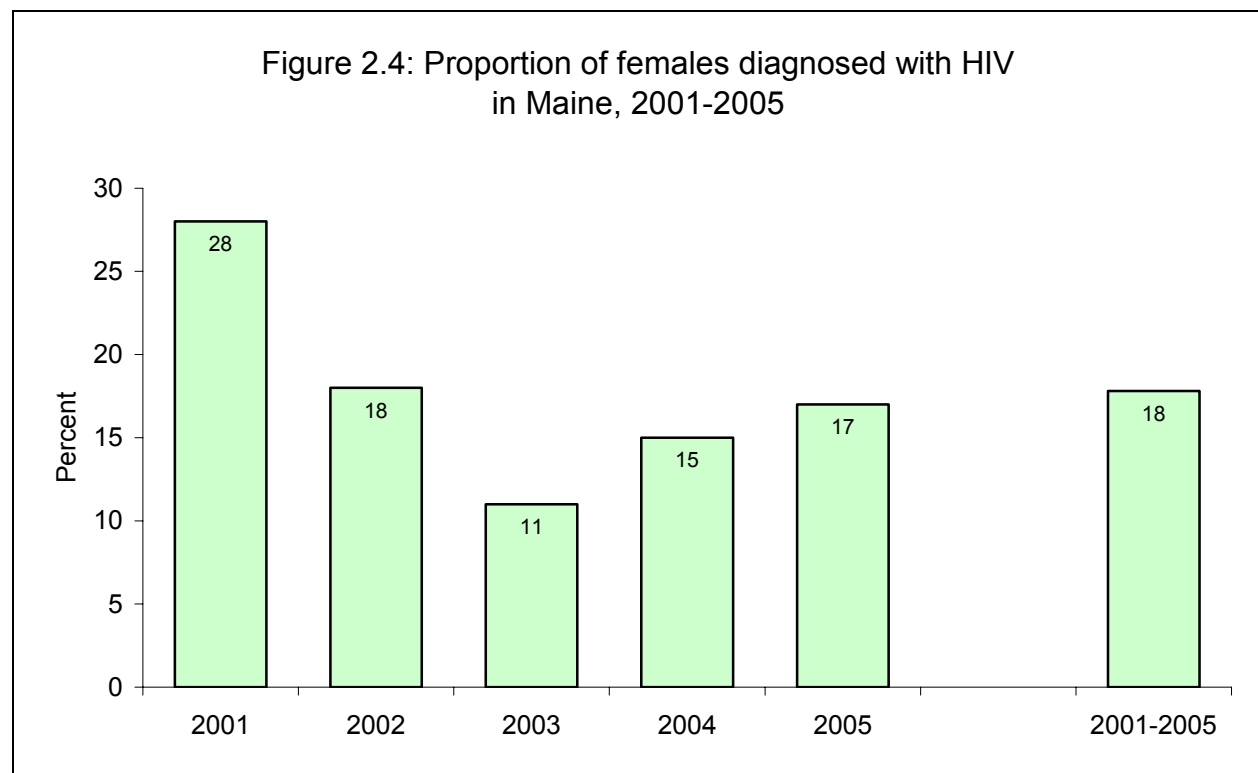
Table 2.2 (next page) shows the sex of 2005 HIV diagnoses and of people living with diagnosed HIV/AIDS. Fifty-eight new HIV diagnoses were reported during 2005, including 10 women and 48 men. Thirteen percent of persons newly diagnosed last year were women, versus 17% of Maine prevalent cases.

Table 2.2 2005 HIV Diagnoses and People Living with Diagnosed HIV/AIDS, by Sex

Sex	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Male	48	87	905	83
Female	10	13	185	17
Male-to-female transgender	0	0	3	<1
Total	58	100	1,093	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

In Figure 2.4, the proportion of females diagnosed with HIV from 2001 to 2005 is presented. The percentage of women diagnosed during this time period ranged from a high of 28% in 2001 to a low of 11% in 2003. During the 5-year period, 18% of HIV diagnoses in the state of Maine occurred among females, and 82% were among males.



2.7.2 Age

Table 2.3 shows age group of 2005 prevalent and incident cases. Eighty percent of 2005 diagnoses and 78% of HIV diagnosis among persons living with diagnosed HIV/AIDS occurred in those 30 years of age and over.

Nineteen percent of 2005 diagnoses were among persons in their twenties; because many people are HIV-infected for some time before being tested, it is likely that a large

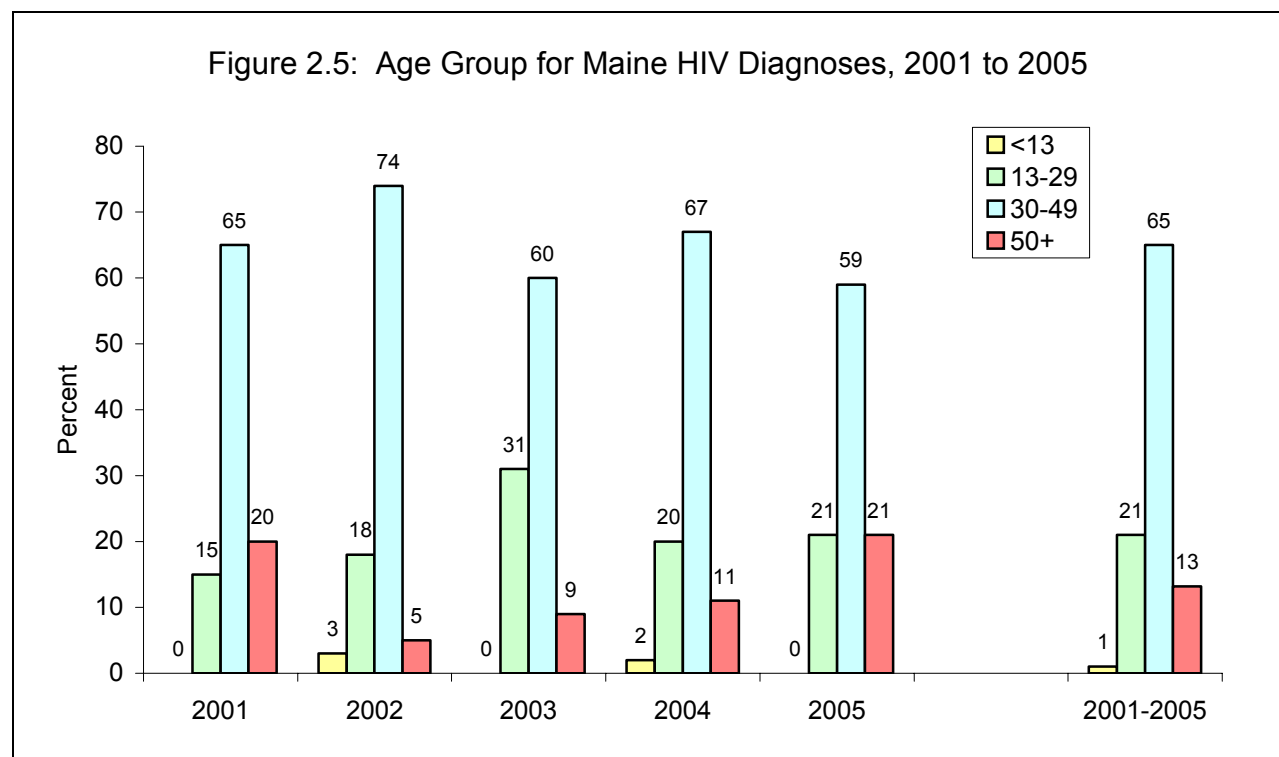
proportion of those who tested positive in this age category were infected when in their teens or early twenties. This emphasizes the need for continuing HIV prevention services for young people.

Table 2.3 Age at HIV Diagnosis for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Maine

Age at HIV Diagnosis	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
<13	0	0	9	1
13-19	1	2	21	2
20-29	11	19	215	20
30-39	14	24	388	36
40-49	20	35	288	26
>49	12	21	105	10
Unknown	0	0	67	6
Total	58	100	1,093	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Figure 2.5 shows age group for new HIV diagnoses between 2000 and 2005. Age groups have remained relatively stable over the past five years, with those between 30 and 49 years-old comprising a majority of diagnoses



2.7.3 Race and Ethnicity

Table 2.4 illustrates that the majority of persons affected by HIV in Maine are non-Hispanic White, with this group comprising 86% of both 2005 diagnoses and persons living with diagnosed HIV/AIDS. After Whites, African American/Blacks and Hispanics are most represented among people living with diagnosed HIV/AIDS. African-American/Blacks comprised 7% of 2005 diagnoses and 8% of people living with diagnosed HIV/AIDS. Hispanics comprised 7% of 2005 diagnoses and 5% of people living with diagnosed HIV/AIDS.

Table 2.4 Race and Ethnicity for 2004 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Maine

Race	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
White	54	93	989	91
Black or African American	4	7	90	8
Asian	0	0	3	<1
American Indian/Alaskan Native	0	0	9	1
Native Hawaiian or Other Pacific Islander	0	0	0	0
More than one race	0	0	0	0
Some other race	0	0	0	0
Unknown	0	0	2	<1
Total	58	100	1,093	100
Ethnicity				
Hispanic	4	7	57	5
Not Hispanic	54	93	1,036	95
Total	58	100	1,093	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Figure 2.6 (next page) compares the overall state population by race/ethnicity with people living with diagnosed HIV/AIDS. Although racial and ethnic minorities make up less than 4% of Maine's population, people of color comprise nearly 15% of persons living with diagnosed HIV/AIDS. This comparison indicates that Black and Hispanic populations in Maine are disproportionately affected by HIV.

Figure 2.6: Comparing Race/Ethnicity in the Total Maine Population With People Living with Diagnosed HIV Infection

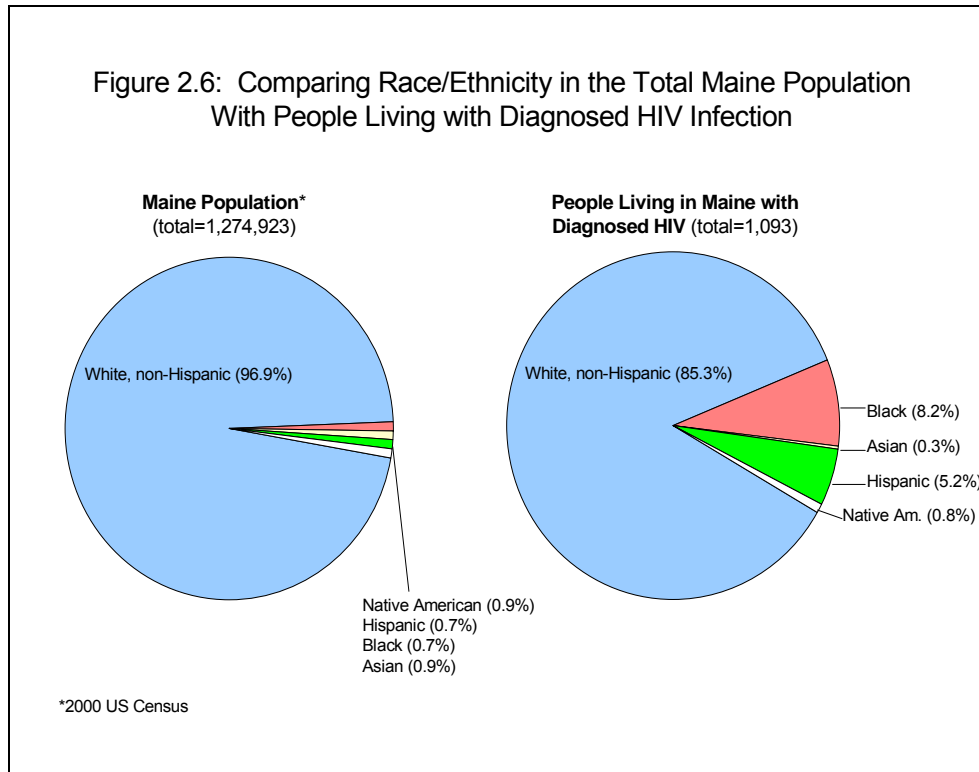
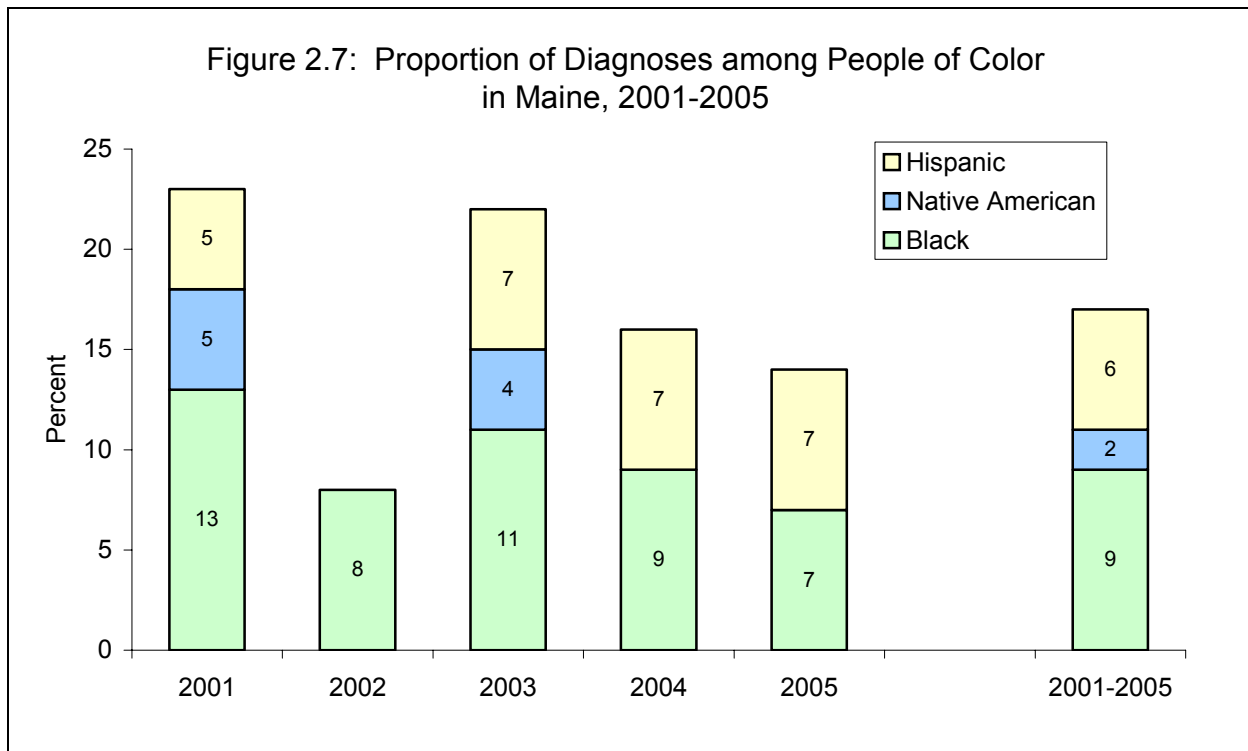


Figure 2.7 shows the proportion of non-White persons diagnosed with HIV in Maine between 2001 and 2005. African American/Blacks were consistently represented with 9% of diagnoses overall during the five-year period. Another six percent of diagnoses were among Hispanics and two percent were among Native Americans.

Figure 2.7: Proportion of Diagnoses among People of Color in Maine, 2001-2005



2.7.4 Exposure Category

In comparison to the general population, two key sub-populations are disproportionately affected by HIV in Maine. These include males who have unsafe sex with males (MSM) and injection drug users who share works or needles (IDU). Heterosexual sex with an at-risk partner is also a significant mode of transmission. Table 2.5 provides a breakdown of these and other exposure categories.

In 2005, more than half (59%) of HIV diagnoses were attributed to male-to-male sexual contact, followed by heterosexual transmission with at-risk partners (10%) and non-at risk partners (26%). An at-risk heterosexual partner is defined as a person who is MSM (female partners only), IDU, or HIV-infected. Exposure was undetermined for 5% of diagnoses.

For people living with diagnosed HIV/AIDS, 56% were believed to have been infected through male to male sex, 14% through injection drug use, and 3% through a combined risk of male to male sex and injection drug use. Heterosexual sex with an at-risk comprised 11% of infections and heterosexual sex with non-at risk partners accounted for another 9%.

It is important to note that, in some instances, individuals may not report their true transmission risk because of fears about disclosure of culturally stigmatized behaviors. These behaviors include both injection drug use and male-to-male sex. This may artificially inflate the heterosexual contact exposure categories, particularly for those cases when a heterosexual partner's HIV risk status is unknown.

Table 2.5 Mode of Transmission for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Maine

Mode of Transmission	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Males who have sex with males (MSM)	34	59	613	56
Injection drug users (IDU)	0	0	147	14
MSM/IDU	0	0	37	3
Heterosexual contact with at-risk partners	6	10	119	11
Heterosexual contact with no at-risk partners disclosed	15	26	101	9
Received contaminated blood products	0	0	13	1
Child born to mother with HIV	0	0	11	1
Undetermined	3	5	52	5
Total	58	100	1,093	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

People infected through contaminated blood products and mother-to-infant transmissions represent a small number of people living with diagnosed HIV in Maine. Only two mother-to-infant transmissions have been reported since 1996, both the result of infections that occurred outside of Maine. There have been no documented instances of occupationally-acquired HIV infection in the state.

Table 2.6 shows mode of transmission among males for 2005 HIV diagnoses and for people living with diagnosed HIV/AIDS. Not surprisingly, male-to-male sex is the most frequently reported mode of transmission among males, accounting for 71% of 2005 diagnoses and 72% of diagnoses among males living with diagnosed HIV/AIDS (when combined with the category MSM/IDU). Other important risks for males include injection drug use and heterosexual sex.

Table 2.6 Mode of Transmission among Males for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Maine

Mode of Transmission	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Males who have sex with males (MSM)	34	71	613	68
Injection drug users (IDU)	0	0	103	11
MSM/IDU	0	0	37	4
Heterosexual contact with at-risk partners	4	8	39	4
Heterosexual contact with no at-risk partners disclosed	8	16	58	6
Received contaminated blood products	0	0	12	1
Child born to mother with HIV	0	0	7	1
Undetermined	2	4	39	4
Total	48	100	908	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

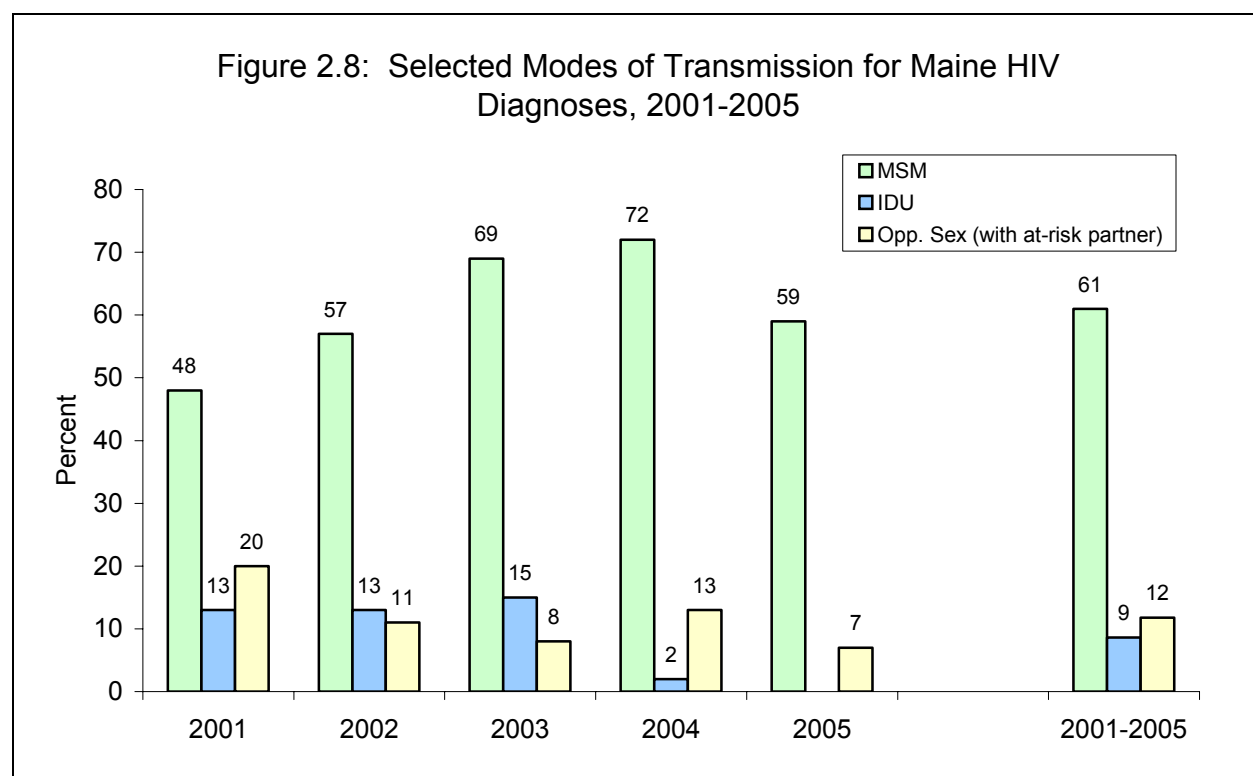
Table 2.7 shows mode of transmission among females for 2005 diagnoses and for females living with diagnosed HIV/AIDS. The most often cited mode of transmission for females is heterosexual sex. During 2005, nine of 10 female diagnoses were attributed to heterosexual sex, although no at-risk partners were disclosed for seven of the nine. Among women living in Maine with diagnosed HIV/AIDS, 43% of diagnoses are attributed to sex with an at risk male partner, 23% to sex with a non-at risk male partner, and 24% to injection drug use.

Table 2.7 Mode of Transmission among Females for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Maine

Mode of Transmission	2004 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Injection drug users (IDU)	0	0	44	24
Heterosexual contact with at-risk partners	2	20	80	43
Heterosexual contact with no at-risk partners disclosed	7	70	43	23
Received contaminated blood products	0	0	1	1
Child born to mother with HIV	0	0	4	2
Undetermined	1	10	13	7
Total	10	100	185	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Figure 2.8 shows selected modes of transmission for Maine HIV diagnoses from 2001 to 2005. The proportion of HIV diagnoses among MSM increased each year through 2004, with a slight decline in 2005. Diagnoses among injection drug users declined during 2004 and 2005. The proportion of diagnoses among those infected through heterosexual sex has remained relatively stable during the five-year period.



2.8 County and Regional Data

The following section describes the impact of HIV diagnoses in Maine by county and region of residence.

Table 2.8 (next page) shows county of residence for 2005 HIV Diagnoses with counties listed in rank order by number of diagnoses.

Table 2.8 County of Residence for 2005 HIV Diagnoses in Maine

County of Residence	No.	%
Cumberland	22	40
Kennebec	8	14
Androscoggin	6	10
York	6	10
Penobscot	4	7
Oxford	3	5
Hancock	2	3
Waldo	2	3
Aroostook	1	2
Knox	1	2
Sagadahoc	1	2
Somerset	1	2
Washington	1	2
Franklin	0	0
Lincoln	0	0
Piscataquis	0	0
Total	58	100

In 2005, Cumberland County had the most diagnoses, with 22, followed by Kennebec, Androscoggin and York counties. Thirteen of the 16 Maine counties contained residents who were newly diagnosed with HIV in 2005.

Table 2.9 (next page) shows county of residence for people living with diagnosed HIV/AIDS in Maine, and displays the number of persons along with the crude rate per 100,000 population. Counties are rank-ordered by rate, with the statewide rate included in the ranking. Three counties, Cumberland, Androscoggin and Kennebec all have rates that are higher than the statewide rate of 83 cases per 100,000 population. Cumberland County has the highest rate, with 147 cases per 100,000 population. This rate is 53% higher than the next-highest rate in Androscoggin County. Cumberland also has the most cases overall, with 404 cases or 37% of the state's total.

Table 2.9 County of Residence for People Living with Diagnosed HIV/AIDS in Maine

County of Residence	Rate per 100,000 population	No.	%
Cumberland	147	404	37
Androscoggin	96	104	10
Kennebec	92	111	10
State of Maine	83	1,093	100
Hancock	78	42	4
York	73	147	13
Waldo	72	28	3
Knox	66	27	2
Washington	63	21	2
Penobscot	61	90	8
Somerset	52	27	2
Lincoln	48	17	2
Sagadahoc	41	15	1
Aroostook	36	26	2
Oxford	35	20	2
Piscataquis	34	6	1
Franklin	27	8	1

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Because Maine is large and sparsely populated, this document segments the state into three units to help describe the geographic impact of HIV. These units are the Northern Region, which comprises Aroostook, Hancock, Penobscot, Piscataquis and Washington Counties; the Central Region, which includes Androscoggin, Franklin, Kennebec, Knox, Lincoln, Oxford, Sagadahoc, Somerset and Waldo Counties; and the Southern Region, comprised of Cumberland and York Counties.

Figures 2.9 and 2.10 (next page) are maps that show the distribution of people living with diagnosed HIV/AIDS in Maine by county and Region. Figure 2.9 shows individual counties shaded according to *case counts*. Figure 2.10 shows counties shaded by *case rate*. Data for each map correspond to the case rates and case counts provided above in Table 2.9. Regions of the state are divided by heavy blue lines, and cities and large towns are labeled (individual counties are not labeled because of space constraints).

In both maps, Cumberland County in Southern Maine is shown at the top of the range for case count and case rate. In addition, those other counties containing cities and large towns tend to have higher than average case counts and rates. These include Androscoggin and Kennebec Counties in Central Maine and Penobscot County in Northern Maine.

In the following sections, the demographic characteristics of persons with HIV residing in Northern, Central and Southern Regions will be explored.

Figure 2.9 Region of Residence for People Living with Diagnosed HIV/AIDS in Maine (counties shaded by *case counts*)

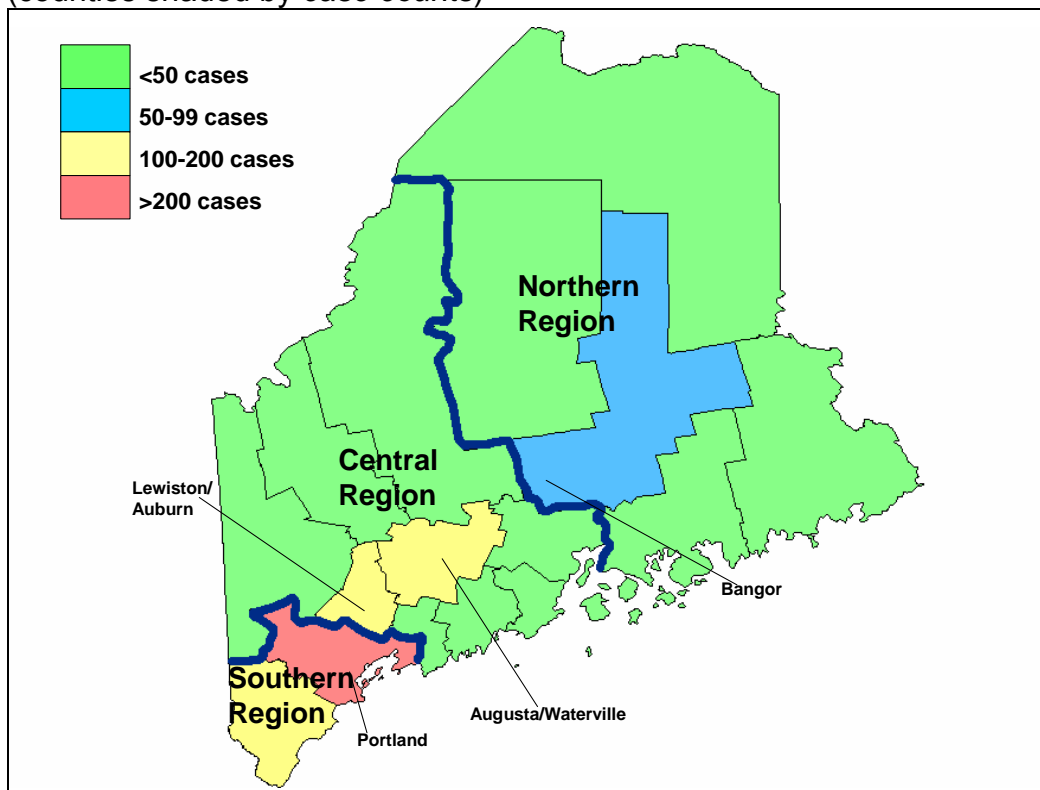
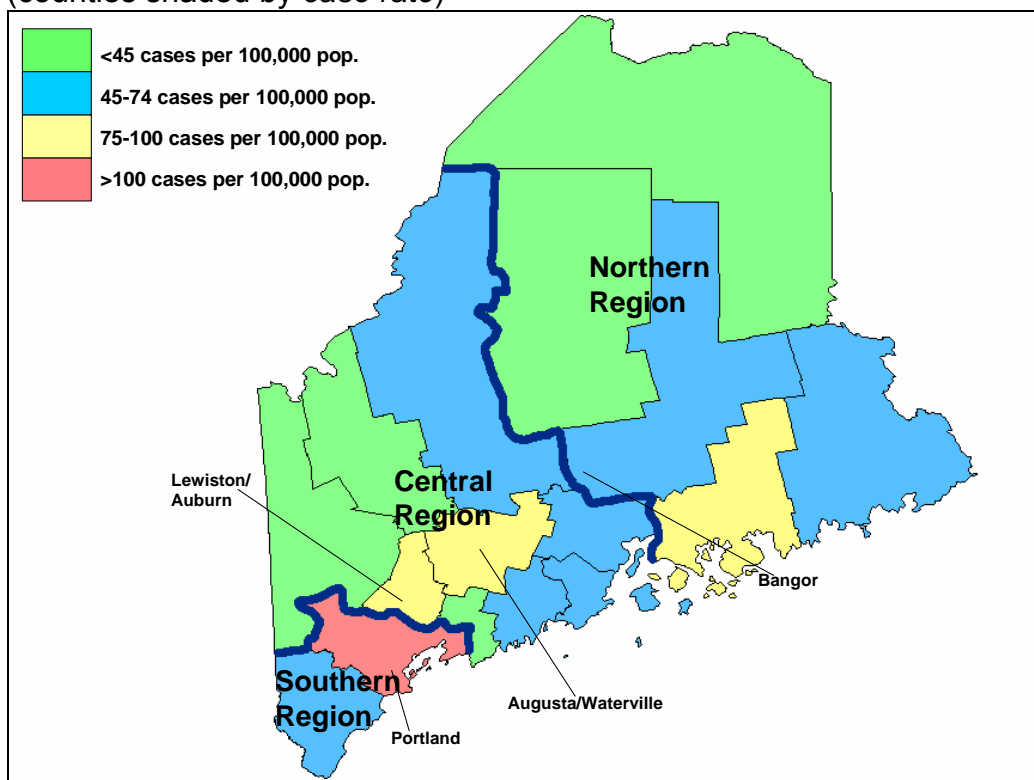


Figure 2.10 Region of Residence for People Living with Diagnosed HIV/AIDS in Maine (counties shaded by *case rate*)



2.8.1 Northern Maine

There were eight new HIV diagnoses in Northern Maine last year, and an estimated 185 persons are living in Northern Maine with diagnosed HIV/AIDS. The following tables detail sex, mode of transmission, age group and race and ethnicity. Because the number of 2005 diagnoses in Northern Maine is small, caution should be used in the interpretation of 2005 incidence data presented below.

Table 2.10 shows the sex of 2005 HIV diagnoses and for people living with diagnosed HIV/AIDS. Last year, seven of eight HIV diagnoses (88%) were among men. This compares to 75% of diagnoses among men for people living in Northern Maine with diagnosed HIV/AIDS.

Table 2.10 Sex of 2005 HIV Diagnoses and People Living with Diagnosed HIV/AIDS in Northern Maine

Sex	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Male	7	88	138	75
Female	1	22	47	25
Male-to-female transgender	0	0	0	0
Total	8	100	185	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Table 2.11 shows mode of transmission for 2005 diagnoses and for people living with diagnosed HIV/AIDS. Male-to-male sex was most often reported for both new diagnoses and people living with diagnosed HIV/AIDS. For 2005 diagnoses, the second-most often reported group was heterosexual contact with a non-at risk partner; for people living with diagnosed HIV/AIDS, the second most reported group was injection drug use.

Table 2.11 Mode of Transmission for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Northern Maine

Mode of Transmission	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Males who have sex with males (MSM)	4	50	72	39
Injection drug users (IDU)	0	0	35	19
MSM/IDU	0	0	4	2
Heterosexual contact with at-risk partners	1	13	30	16
Heterosexual contact with no at-risk partners disclosed	3	37	26	14
Received contaminated blood products	0	0	5	3
Child born to mother with HIV	0	0	5	2
Undetermined	0	0	8	4
Total	8	100	185	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Table 2.12 shows age group at diagnosis of 2005 diagnoses and people living with diagnosed HIV/AIDS. For new diagnoses, the 30-39 year old age group was most often reported, followed by the 20-29 year and 50+ age groups. For people living with diagnosed HIV/AIDS, the most reported group was 30-39 year olds followed by 20-29 and 40-49 year olds.

Table 2.12 Age Group at HIV Diagnosis for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Northern Maine

Age Group at HIV Diagnosis	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Under 13	0	0	5	3
13-19	0	0	5	3
20-29	2	25	42	23
30-39	3	38	66	36
40-49	1	13	42	23
50+	2	25	22	12
Undisclosed	0	0	3	2
Total	8	100	185	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Table 2.13 shows race and ethnicity for 2005 HIV diagnoses and for people living in Northern Maine with diagnosed HIV/AIDS. For 2005 diagnoses, non-Hispanic Whites comprised three quarters of diagnoses and Hispanics made up the remaining quarter (with 2 cases reported). For people living with diagnosed HIV/AIDS, non-Hispanic Whites comprised 84% of cases, followed by African Americans/Blacks at 8%, Hispanics at 5% and Native Americans at 3%.

Table 2.13 Race and Ethnicity for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Maine in Northern Maine

Race	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
White	8	100	165	89
Black or African American	0	0	15	8
Asian	0	0	0	0
American Indian/Alaskan Native	0	0	5	3
Native Hawaiian or Other Pacific Islander	0	0	0	0
More than one race	0	0	0	0
Some other race	0	0	0	0
Unknown	0	0	0	0
Total	8	100	185	100
Ethnicity				
Hispanic	2	25	9	5
Not Hispanic	6	75	176	95
Total	8	100	185	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

2.8.2 Central Maine

There were 22 new HIV diagnoses in Central Maine last year, and an estimated 357 persons are living in Central Maine with diagnosed HIV/AIDS. The following tables detail sex, mode of transmission, age group and race and ethnicity. Because the number of 2005 diagnoses in Central Maine is small, caution should be used in the interpretation of 2005 incidence data presented below.

Table 2.14 shows the sex of 2005 HIV diagnoses and for people living with diagnosed HIV/AIDS. Eighty-two percent of diagnoses occurring in Central Maine were among men and 18% were among women. This is comparable to people living in Central Maine with diagnosed HIV/AIDS, of whom 83% were men and 17% were women.

Table 2.14 Sex of 2005 HIV Diagnoses and People Living with Diagnosed HIV/AIDS in Central Maine

Sex	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Male	18	82	295	83
Female	4	18	61	17
Male-to-female transgender	0	0	1	<1
Total	22	100	357	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Table 2.15 shows mode of transmission for 2005 diagnoses and people living with diagnosed HIV/AIDS. Male-to-male sex was reported most frequently for 2005 diagnoses, followed by heterosexual contact with non-at risk partners. For people living with diagnosed HIV/AIDS, the majority reported transmission through male-to-male sex, followed by heterosexual sex with at-risk partners.

Table 2.15 Mode of Transmission for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Central Maine

Mode of Transmission	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Males who have sex with males (MSM)	11	50	208	58
Injection drug users (IDU)	0	0	38	11
MSM/IDU	0	0	9	3
Heterosexual contact with at-risk partners	4	18	49	14
Heterosexual contact with no at-risk partners disclosed	5	23	25	7
Received contaminated blood products	0	0	2	1
Child born to mother with HIV	0	0	2	1
Undetermined	2	9	24	7
Total	22	100	357	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Table 2.16 shows age group at diagnosis of 2005 diagnoses and people living with diagnosed HIV/AIDS. The highest proportion of 2005 diagnoses were reported in the 40-49 year old age group, followed by the 50+ age group. For people living with diagnosed HIV/AIDS, a majority were in either the 30-09 or 40-49 year old age groups.

Table 2.16 Age Group at HIV Diagnosis for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Central Maine

Age Group at HIV Diagnosis	HIV		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Under 13	0	0	1	<1
13-19	1	5	5	1
20-29	4	18	59	17
30-39	1	5	115	32
40-49	10	46	115	32
50+	6	27	44	12
Undisclosed	0	0	18	5
Total	22	100	357	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Table 2.17 shows race and ethnicity for 2005 HIV diagnoses and for people living in Central Maine with diagnosed HIV/AIDS. For 2005 diagnoses, non-Hispanic Whites comprised 86% of diagnoses, followed by Hispanics at 9% (2 cases reported). For people living with diagnosed HIV/AIDS, non-Hispanic Whites comprised 89% of cases, followed by Hispanics at 5%.

Table 2.17 Race and Ethnicity for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Central Maine

Race	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
White	21	95	337	94
Black or African American	1	5	15	4
Asian	0	0	1	<1
American Indian/Alaskan Native	0	0	2	1
Native Hawaiian or Other Pacific Islander	0	0	0	0
More than one race	0	0	0	0
Some other race	0	0	0	0
Unknown	0	0	2	1
Total	22	100	357	100
Ethnicity				
Hispanic	2	9	17	5
Not Hispanic	20	91	340	95
Total	22	100	357	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

2.8.3 Southern Maine

There were 28 new HIV diagnoses in Southern Maine last year, and an estimated 551 persons are living in Southern Maine with diagnosed HIV/AIDS. The following tables detail sex, mode of transmission, age group and race and ethnicity.

Table 2.18 shows the sex for 2005 HIV diagnoses and for people living with diagnosed HIV/AIDS. Last year, 82% of diagnoses were among men and 18% were among women. This compares to 86% of diagnoses among men and 14% among women for people living in Southern Maine with diagnosed HIV/AIDS.

Table 2.18 Sex of 2005 HIV Diagnoses and People Living with Diagnosed HIV/AIDS in Northern Maine

Sex	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Male	23	82	472	86
Female	5	18	77	14
Male-to-female transgender	0	0	2	<1
Total	28	100	551	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Table 2.19 shows mode of transmission for 2005 diagnoses and people living with diagnosed HIV/AIDS. Male-to-male sex was most-often reported for both new diagnoses and people living with diagnosed HIV/AIDS. For 2005 diagnoses, the second-most often reported group was heterosexual sex with a non-at risk partner; for people living with diagnosed HIV/AIDS, the second most reported group was injection drug use.

Table 2.19 Mode of Transmission for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Southern Maine

Mode of Transmission	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Males who have sex with males (MSM)	19	68	333	60
Injection drug users (IDU)	0	0	74	13
MSM/IDU	0	0	24	4
Heterosexual contact with at-risk partners	1	4	40	7
Heterosexual contact with no at-risk partners disclosed	7	25	50	9
Received contaminated blood products	0	0	6	1
Child born to mother with HIV	0	0	4	1
Undetermined	1	4	20	4
Total	28	100	551	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Table 2.20 (next page) shows age group at diagnosis of 2005 diagnoses and people living with diagnosed HIV/AIDS. For both new diagnoses and people living with

diagnosed HIV/AIDS, the 30-39 year old age group was most often reported, followed by the 40-49 year old age group.

Table 2.20 Age Group for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Southern Maine

Age Group at HIV Diagnosis	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
Under 13	0	0	3	1
13-19	0	0	11	2
20-29	5	18	114	21
30-39	10	36	207	38
40-49	9	32	131	24
50+	4	14	39	7
Undisclosed	0	0	46	8
Total	28	100	551	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

Table 2.21 shows race and ethnicity for 2005 HIV diagnoses and for people living in Southern Maine with diagnosed HIV/AIDS. For 2005 diagnoses, non-Hispanic Whites comprised 89% of diagnoses, followed by African-American/Blacks at 11% (3 cases reported). For people living with diagnosed HIV/AIDS, non-Hispanic Whites comprised 82% of cases, followed by African American/Blacks at 11%.

Table 2.21 Race and Ethnicity for 2005 HIV Diagnoses and for People Living with Diagnosed HIV/AIDS in Southern Maine

Race	2005 HIV diagnoses		People living with diagnosed HIV/AIDS ^a	
	No.	%	No.	%
White	25	89	487	88
Black or African American	3	11	60	11
Asian	0	0	2	<1
American Indian/Alaskan Native	0	0	2	<1
Native Hawaiian or Other Pacific Islander	0	0	0	0
More than one race	0	0	0	0
Some other race	0	0	0	0
Unknown	0	0	0	0
Total	28	100	551	100
Ethnicity				
Hispanic	0	0	31	6
Not Hispanic	28	100	520	94
Total	28	100	551	100

^a Includes people living with AIDS or HIV diagnoses reported to ME CDC as of 12/05.

2.9 Key Points

- During 2005, 58 HIV diagnoses and 45 AIDS diagnoses occurred.
- During 2005, 12 people with AIDS died. AIDS is the seventh leading cause of death in Maine among persons aged 25 to 44 years.
- Incidence of both HIV and AIDS diagnoses have dropped markedly since the early 1990's. Despite this fact, HIV/AIDS prevalence continues to increase because deaths due to AIDS are at their lowest point since the beginning of the epidemic.
- Approximately 45% of persons diagnosed with HIV during the past five years were ill enough to be classified with AIDS within one year of testing positive, indicating that they had been infected a long while before their HIV diagnosis.
- It is estimated that approximately 1,500 to 1,600 people are living with HIV/AIDS in Maine.
- In 2005, 13% of diagnoses were among females. It is estimated that 17% of persons living in Maine with diagnosed HIV/AIDS are female.
- Eighty percent of 2005 HIV diagnoses and 78% of persons living with diagnosed HIV/AIDS were 30 years of age and over.
- The majority of persons affected by HIV in Maine are non-Hispanic White, with this group comprising 86% of both 2005 diagnoses and persons living with diagnosed HIV/AIDS. After Whites, African American/Blacks comprise the second-largest racial/ethnic group, at 7% of 2005 diagnoses and 8% of people living with diagnosed HIV/AIDS. Hispanics are also disproportionately affected by HIV in Maine, comprising 7% of 2005 diagnoses and 5% of people living with diagnosed HIV/AIDS.
- In comparison to the general population, two key risk populations are disproportionately affected by HIV in Maine. These include males who have unsafe sex with males (MSM) and injection drug users who shared works or needles (IDU). MSM comprised 59% of both 2005 diagnoses and people living with diagnosed HIV/AIDS. Heterosexual sex is also a significant mode of transmission.
- Three counties are disproportionately affected by HIV in Maine, including Cumberland, Androscoggin and Kennebec. These three counties have cumulative HIV case rates that are higher than the statewide rate. Cumberland County has the highest case rates and the most cumulative cases overall, with 404 cases or 37% of the state's total.

Question 3

What are the indicators of risk for HIV infection and AIDS in Maine?

The data used to respond to Question 3 summarize factors that affect the risk of acquiring and transmitting HIV infection. These data include Maine-specific studies about the risk factors of populations most affected by HIV. In addition, Maine CDC STD case surveillance data are presented. Reports and documents used in this section are listed below:

- 2005 Maine CDC STD case surveillance data;
- 2003 CPG Needs Assessment: The Knowledge, Attitudes, Beliefs and Behaviors of Populations at Risk through Sexual Contact (Maine CPG, 2003);
- HIV Prevention and Injection Drug Use in Maine: A Statewide Needs Assessment (Maine CDC, 2003);
- Maine CDC MSM Behavioral Surveillance (Maine CDC 2005); and
- Youth Risk Behavior Survey (2003, Maine Department of Education).

All of these documents help to create a better understanding of the behaviors and characteristics of at-risk populations in the state.

3.1 Maine CDC STD Surveillance Data

Maine CDC collects data regarding gonorrhea, chlamydia, and syphilis. STD incidence indicates that individuals are engaging in unprotected sex. In addition, research has shown that HIV-negative persons with another STD are two to five times more likely to become infected HIV if they're exposed. Likewise, HIV-positive persons who are infected with another STD are more likely to transmit HIV to their sexual partners. Therefore, those at risk for STD may also be at increased risk for HIV. This section of the profile reflects disease reports received through December 31, 2005. Trend data are also included to present a more comprehensive picture of the STD numbers in Maine.

3.1.1 Chlamydia

Figure 3.1 (next page) shows chlamydia diagnoses reported to Maine CDC from 1996 to 2005. Chlamydia is the most frequently reported STD in the state. During 2005, more than 2,200 cases were reported. Apart from a slight decline in 2001, the number of diagnoses increased each year between 1996 and 2005. The number of 2005 reports represents an increase of 6% over the 2004 total.

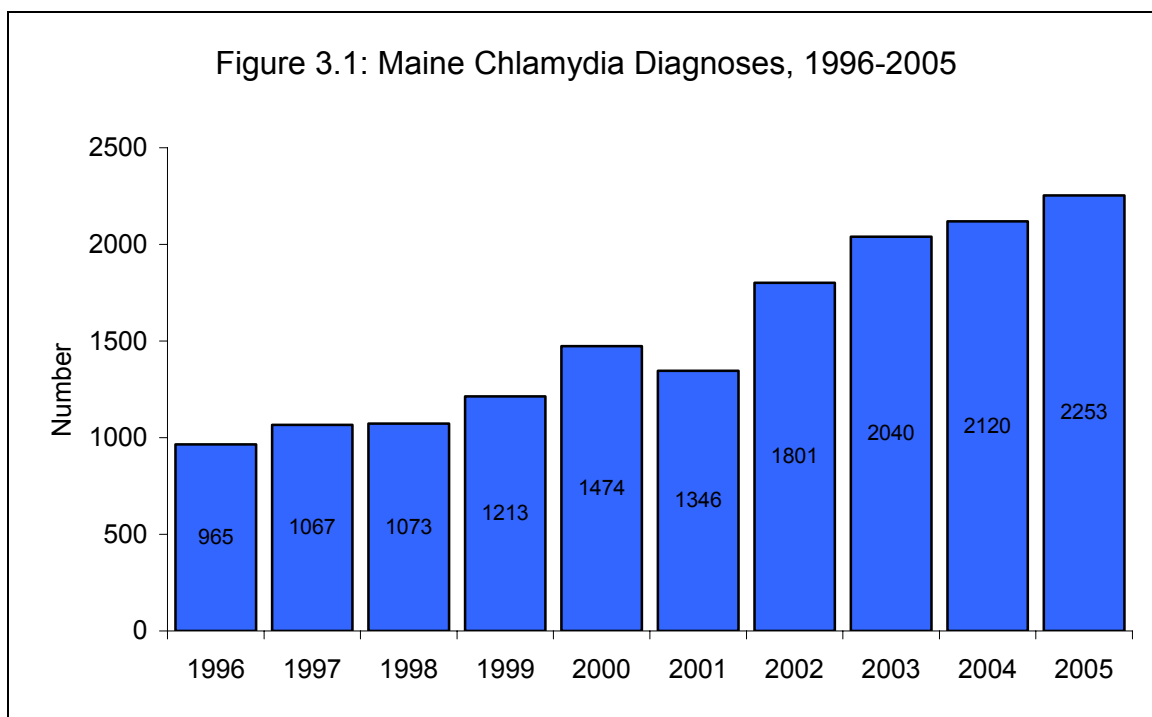


Figure 3.2 shows 2005 chlamydia diagnoses by age group and sex. People 24 years old and under are disproportionately affected by this disease, accounting for three-quarters of all 2005 cases. Females are diagnosed with chlamydia much more often than males, comprising 73% of all reports. This does not mean greater numbers of women are infected with the disease; women are tested for the disease more frequently than men, and may be more likely to exhibit symptoms.

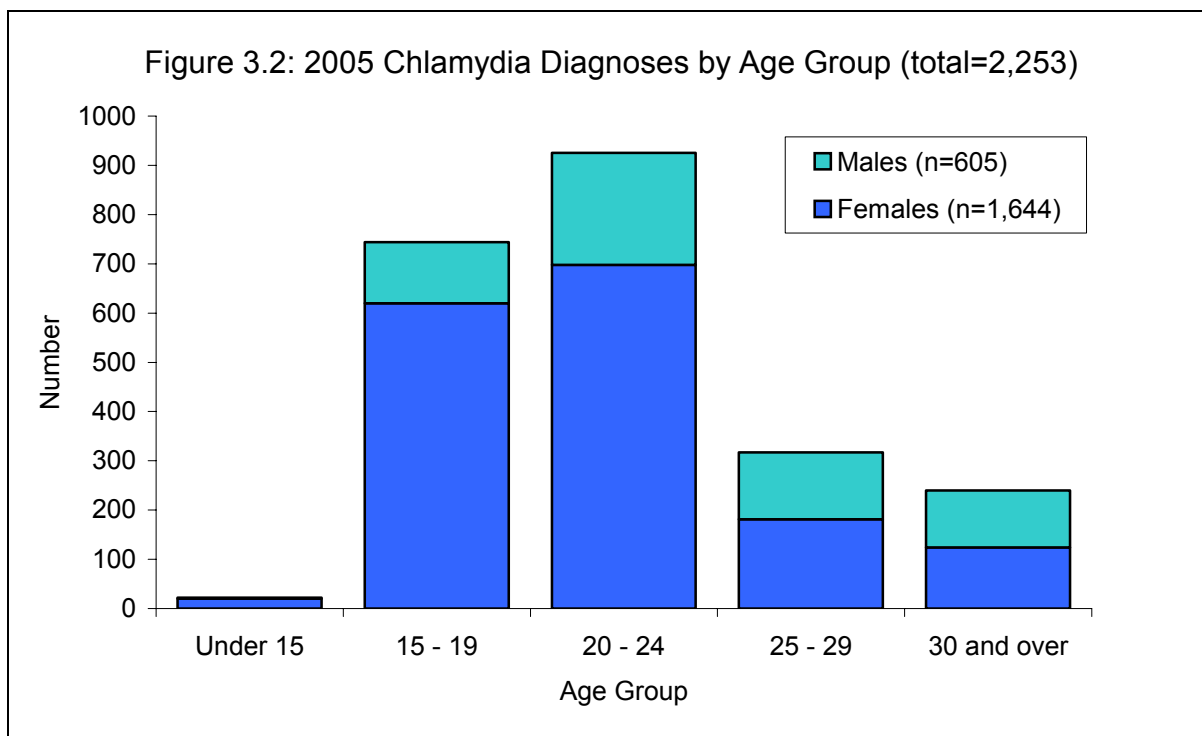
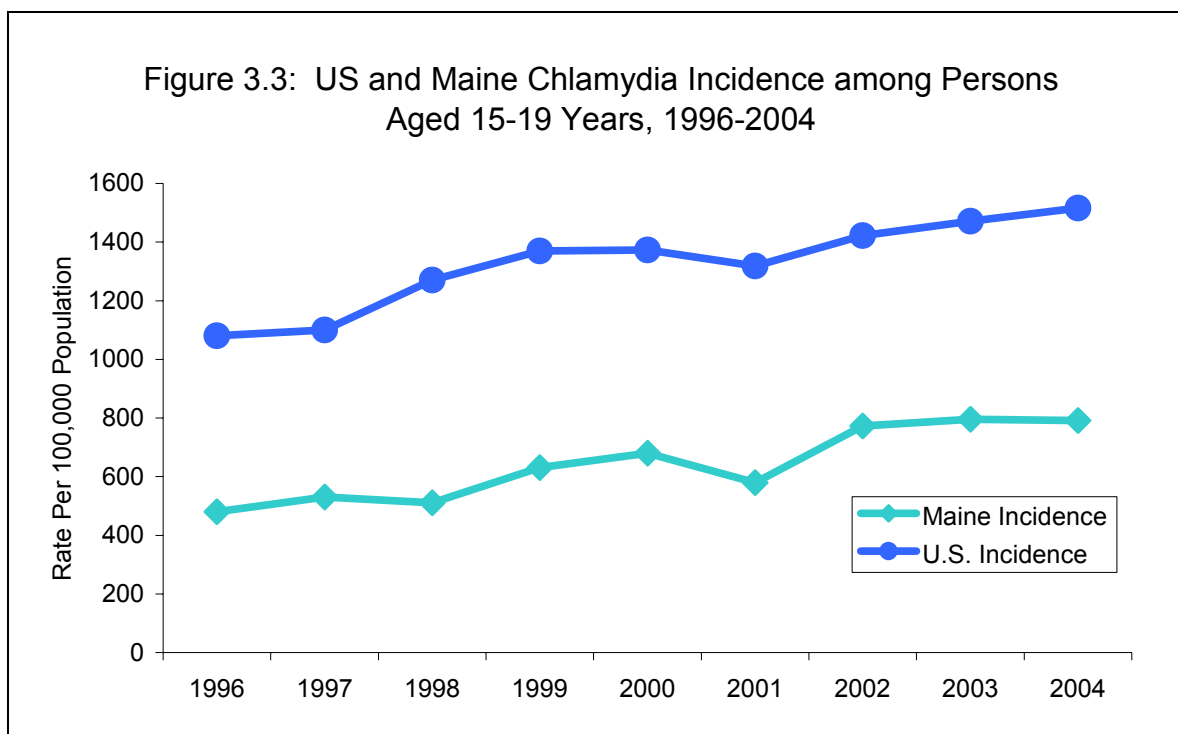


Table 3.1 lists the number of 2005 chlamydia diagnoses and rate per 100,000 population by county and region, with counties listed in rank order by rate. The statewide rate is included in the rank order. Number of diagnoses and percent of total are also listed in the table. Androscoggin, Cumberland and Penobscot Counties have chlamydia rates that are higher than the statewide rate.

Table 3.1 County of Residence for 2005 Chlamydia Diagnoses (Region in parentheses)

County of Residence	Rate per 100,000 population	No.	%
Androscoggin (Central)	298.7	310	14
Cumberland (Southern)	225.1	598	27
Penobscot (Northern)	208.4	302	13
Maine	176.7	2,253	100
Washington (Northern)	167.9	57	3
Kennebec (Central)	163.9	192	9
York (Southern)	156.9	293	13
Hancock (Northern)	142.9	74	3
Sagadahoc (Central)	136.3	48	2
Piscataquis (Northern)	133.4	23	1
Knox (Central)	128.7	51	2
Aroostook (Northern)	127.1	94	4
Franklin (Central)	122.2	36	2
Somerset (Central)	112.0	57	3
Oxford (Central)	100.4	55	2
Waldo (Central)	99.2	36	2
Lincoln (Central)	80.3	27	1

Figure 3.3 (next page) compares Maine rates and US rates of chlamydia among 15-19 year-olds from 1996 to 2004 (the last year for which US data are currently available). Rates among Maine 15-19 year-olds increased during the past nine years, rising from 480 per 100,000 population in 1996 to a high of 796 in 2003. Rates declined slightly in 2004 to 792/100,000 pop. Despite increases among 15-19 year-olds, Maine rates are low compared to US rates. In 2004, the Maine rate was approximately half the US rate.



3.1.2 Gonorrhea

Figure 3.4 shows gonorrhea diagnoses reported to Maine CDC from 1996 to 2005. Although there was a marked increase in the number of gonorrhea diagnoses in 2003, there were decreases in both 2004 and 2005. One hundred forty-two cases were diagnosed in 2005, representing a 34% decrease over the 2004 total.

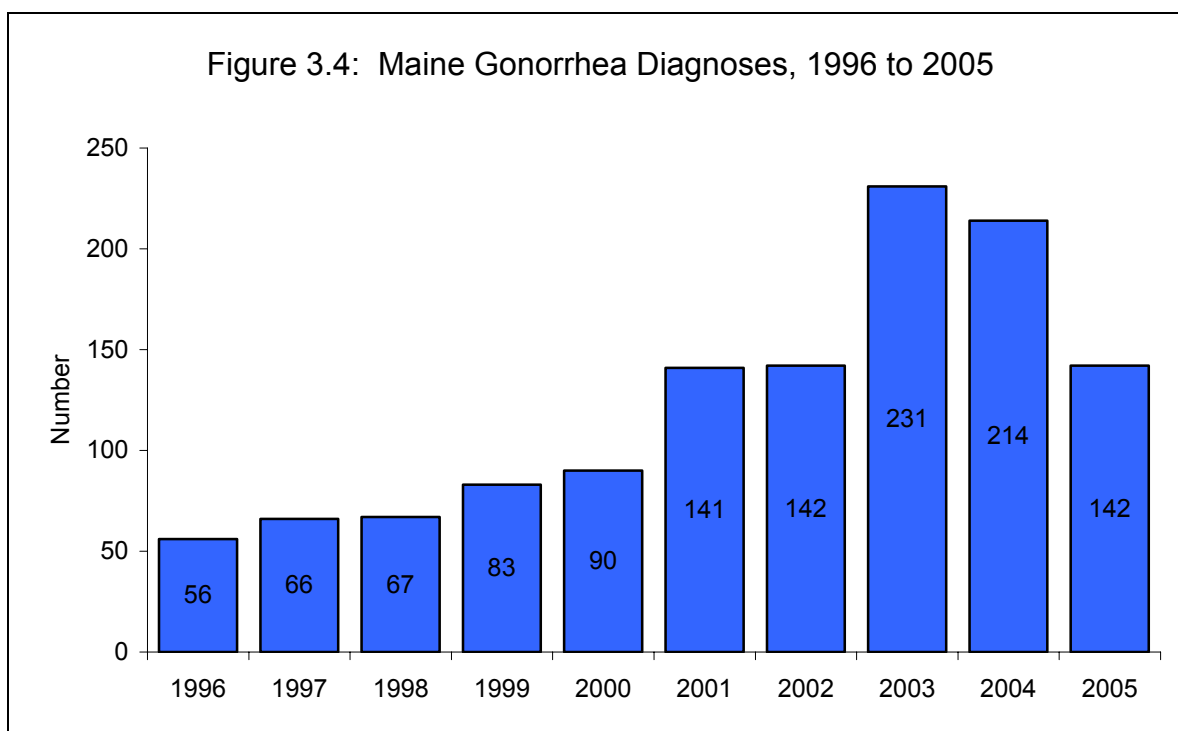


Figure 3.5 shows 2005 gonorrhea diagnoses by age group and sex. Gonorrhea affects a slightly older age range than chlamydia. Just over half of 2005 diagnoses occurred in the 20-29 age range, and approximately one quarter were less than 20 years-old.

Males comprised approximately 56% all gonorrhea diagnoses. The greater proportion of male diagnoses is likely due to diagnoses among males who have sex with males (MSM), who accounted for one quarter of cases reported in 2005.

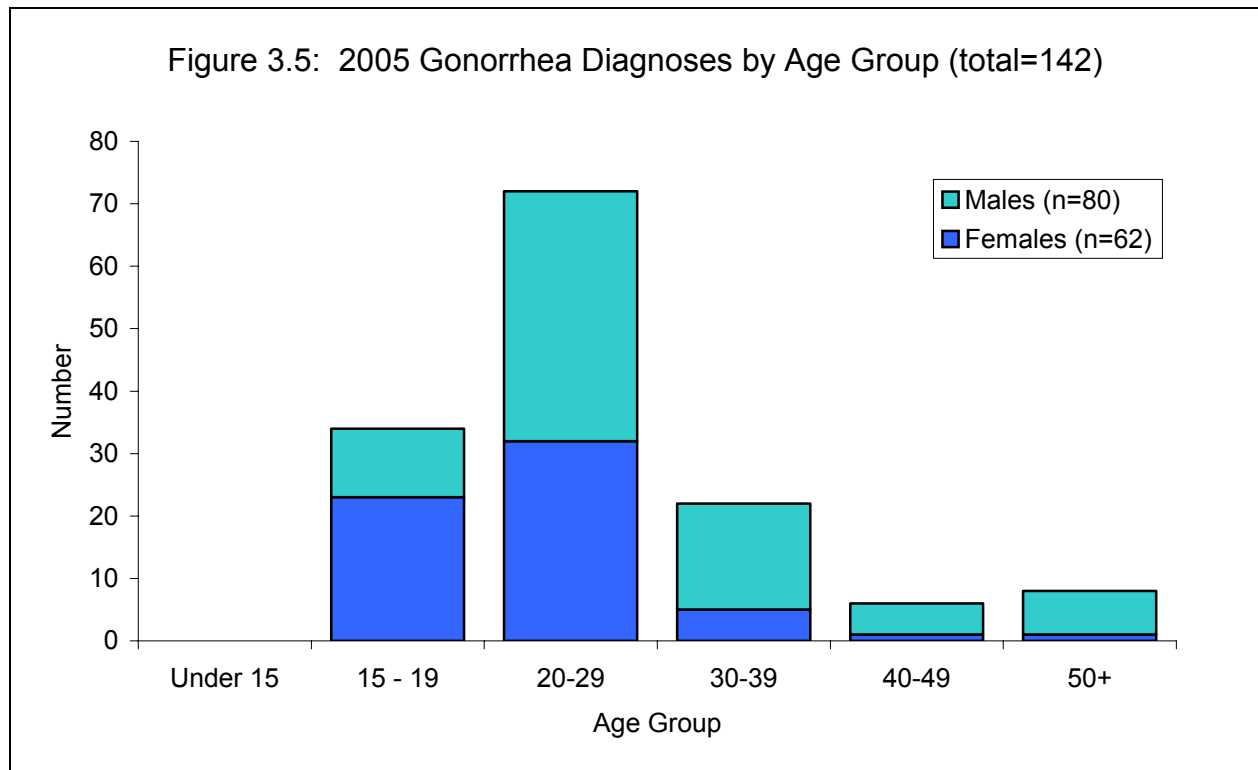
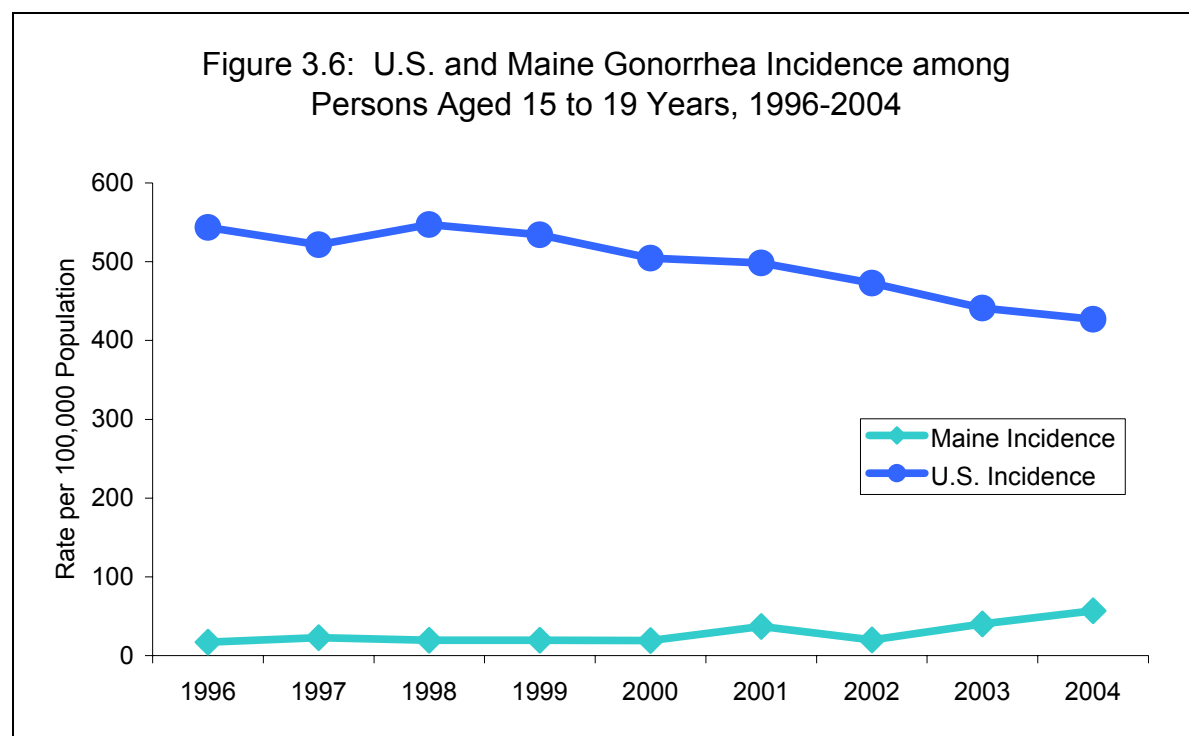


Table 3.2 (next page) lists the number of 2005 gonorrhea diagnoses and rate per 100,000 population by county and region, with counties listed in rank order by rate. The statewide rate is included in the rank order. Number of diagnoses and percent of total are also listed in the table. Two counties, Androscoggin and Cumberland, have gonorrhea rates that are higher than the statewide rate.

Table 3.2 County of Residence for 2005 Gonorrhea Diagnoses (Region in parentheses)

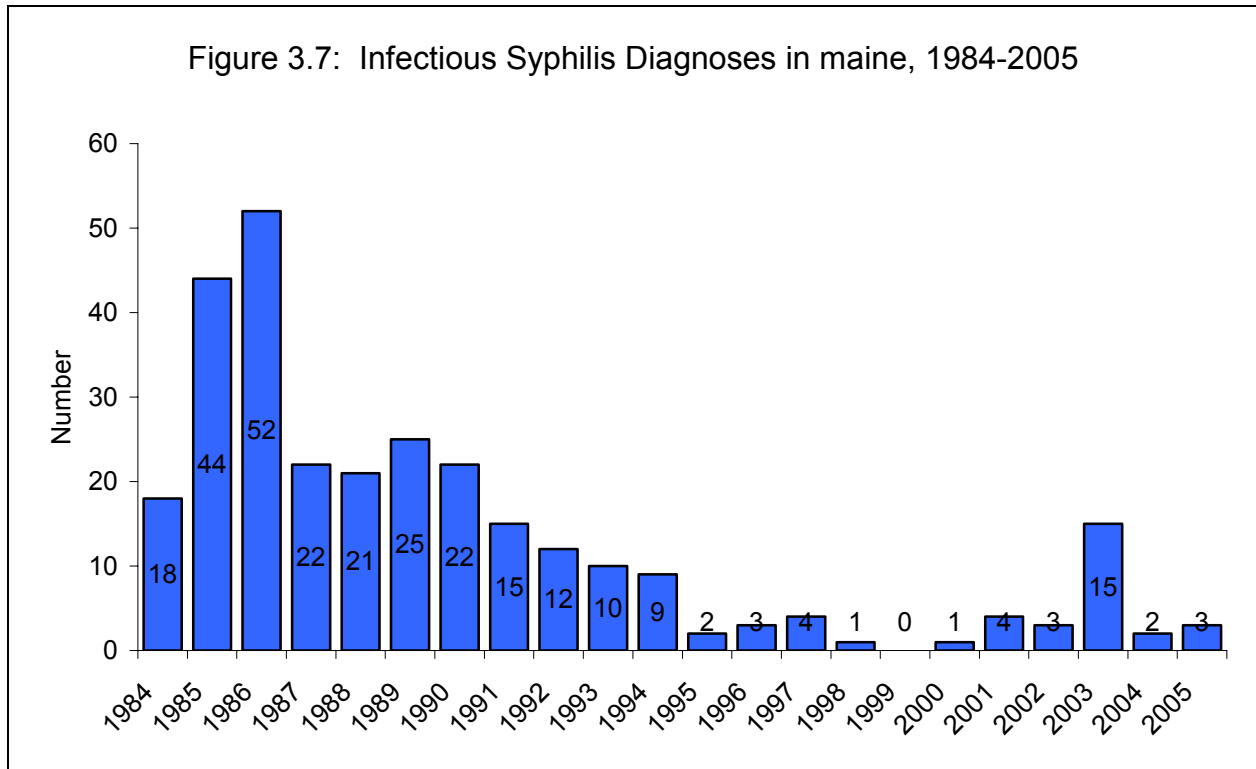
County of Residence	Rate per 100,000 population	No.	%
Androscoggin (Central)	30.8	32	23
Cumberland (Southern)	21.1	56	39
Maine	11.1	142	100
Aroostook (Northern)	10.8	8	6
Kennebec (Central)	9.4	11	8
Washington (Northern)	8.8	3	2
Waldo (Central)	8.3	3	2
Penobscot (Northern)	7.6	11	8
Hancock (Northern)	5.8	3	2
York (Southern)	4.3	8	6
Somerset (Central)	3.9	2	1
Franklin (Central)	3.4	1	1
Lincoln (Central)	3.0	1	1
Sagadahoc (Central)	2.8	1	1
Knox (Central)	2.5	1	1
Oxford (Central)	1.8	1	1
Piscataquis (Northern)	0	0	0

Figure 3.6 compares Maine rates and US rates of gonorrhea among 15-19 year-olds from 1996 to 2004 (the last year for which US data are currently available). Gonorrhea rates among 15-19 year-olds in Maine increased slightly during the past decade, rising from 17 cases/100,000 pop. in 1996 to 57 in 2004. Like chlamydia, Maine gonorrhea rates much lower than US rates. In 2004, the US rate among 15-19 year-olds was approximately seven times higher than the Maine rate.



3.1.3 Syphilis

Figure 3.7 shows primary and secondary syphilis diagnoses in Maine during the past two decades, since 1984. After peaking in the mid-1980s, syphilis steadily declined until 1999, when there were no diagnoses reported in the state. During 2003, syphilis reemerged as an infectious disease of note in Maine, with 15 diagnoses reported. This total was greater than any annual total since 1991. An increased number of syphilis diagnoses was not maintained during 2004 and 2005. In 2005, only three diagnoses were noted.



3.2 Key Points About STD Data

- Chlamydia is the most frequently-diagnosed STD in the state, with more than 2,200 cases reported in 2005. During 2005, chlamydia diagnoses increased by 6% over 2004.
- Young people under 24 years old are at greatest risk for chlamydia, accounting for three quarters of infections.
- In 2005, Androscoggin (Central Maine), Cumberland (Southern Maine), and Penobscot (Northern Maine) Counties all had chlamydia rates that were greater than the statewide rate.

- Chlamydia rates among 15-19 year-olds have increased in Maine during the past nine years. The Maine rate in this age group is approximately half the nation-wide rate.
- There were 142 cases of gonorrhea diagnosed in Maine in 2005, representing a 34% decrease over the 2004 total.
- MSM are disproportionately affected by gonorrhea, comprising one-quarter of all 2005 diagnoses.
- Gonorrhea rates among 15-19 year-olds have increased slightly during the past decade, but the national rate is approximately seven times larger than the Maine rate.
- In 2005, Androscoggin (Central Maine) and Cumberland (Southern Maine) had gonorrhea rates that were greater than the statewide rate.
- Fifteen syphilis diagnoses occurred in 2003, the largest number seen in more than a decade. More than half were among MSM. However, there were only two syphilis cases in 2004 and three in 2005.

3.3 Maine Studies about At-Risk Populations

Four, state-wide, Maine-specific studies are summarized below that examine HIV-related risk behaviors for males who have sex with males, injection drug users, people at risk through heterosexual contact and youth.

3.3.1 2003 CPG Needs Assessment (Maine CPG, 2003)

In an attempt to describe the met and unmet HIV prevention needs in the state of Maine, the Maine HIV Prevention Community Planning Group (CPG) conducted a statewide survey of people at risk for HIV through sexual contact. Three subpopulations were included in the study: Females who have sex with males (WSM); Males who have sex with females (MSW); and Males who have sex with males (MSM).

Some key findings about sexual behavior are highlighted below:

- Risk behavior, including unprotected anal and vaginal sex, occurred in varying proportions within each population.
- In all populations, people in non-monogamous relationships had anal sex without condoms, the highest sexual risk behavior:
 - WSM - 10%
 - MSW - 20%
 - MSM - 27% receptive and 34% insertive.

- For the FM and MF populations, anal and vaginal sex occurred at higher levels without condoms than with condoms. For all populations, oral sex occurred at higher proportions without condoms.
- In most cases, people not in monogamous relationships engaged in risky sex in lower proportions – and used condoms in higher proportions – than those in monogamous relationships.
- For all populations, very small proportions of respondents used condoms or barriers for oral sex.
- For all populations, significant proportions of people who engaged in anal or vaginal sex did so both with and without a condom during the past six months.
- Males who have sex with males, the population most susceptible to HIV infection, continue to engage in at-risk sexual behavior at higher rates than MSW and WSM. Many MSM respondents also indicated that they had high numbers of sexual partners during the preceding six months.

In addition to sexual behavior, survey participants were asked about HIV testing. The data indicate that large proportions (close to half of each subpopulation) were tested for HIV within the past year. However, sizable numbers of respondents have never been tested, including 17% of the MSM sample. MSM respondents who were less open about their sexual orientation were also less likely to know their HIV status.

3.3.2 HIV Prevention and Injection Drug Use in Maine: A Statewide Needs Assessment (Maine CDC, 2003)

This needs assessment provides general information about injection drug use in Maine based on information collected during the period 1996-2001 using information from existing data sources on HIV, AIDS, hepatitis C, substance abuse treatment, hospital discharges, deaths, poison control, and arrests. Information from interviews of current and former injection drug users and service providers for this population was also used.

The key findings that emerge from this needs assessment are:

- Males account for the majority of HIV and hepatitis C infections through injection drug use.
- Stigma, fear and distrust are the biggest barriers to injection drug users accessing services; using peers, versed in the language and culture of the injection drug user community, to deliver prevention services is a way to overcome some of these barriers, according to injection drug users.
- Most injection drug users in this sample:
 - Know the basics of preventing HIV and hepatitis C, but may not practice safe behaviors when high and/or using with friends or partners,

- Get clean needles from pharmacies, but experience discriminatory sales practices in some pharmacies,
- Support and use needle exchange programs,
- Had been tested for HIV, while only about half were tested for Hepatitis C,
- Disagree on the efficacy of bleach kits to prevent disease transmission.

There are regional differences in the scope and impact of injection drug use in Maine. After population is controlled for, Cumberland County is experiencing the greatest impact of injection drug use on blood-borne disease rates and health, social, and criminal justice services. Penobscot, Washington, Knox and Androscoggin Counties are the next most impacted regions.

3.3.3 Bureau of Health Behavioral Surveillance for MSM (Maine CDC, 2005)

In 2005, Maine CDC engaged in MSM behavioral surveillance to help understand recent increases in HIV and STD incidence among MSM. These efforts included key informant (KI) interviews with MSM, health care providers, ASO staff and disease investigation specialists (DIS). In addition, DIS queried men testing positive for gonorrhea or HIV about their sexual behaviors, particularly in relation to their infecting sexual partner, if known. Some key findings from both methods are listed below

- MSM are hooking up through a number of venues. Internet and bars were most frequently cited by key informant (KI) interviews, bars were most frequently noted in DIS interviews.
 - Sex parties (southern ME) and internet hookups appear to be important emerging venues
- Concerning the number of sex partners: KI interviews indicate that numbers have not significantly changed in the past year, although some cite an increase. DIS interviews show that numbers of partners are generally low (1-2) for unprotected anal, and somewhat higher for oral sex.
- Concerning kind of drugs used, alcohol and marijuana were cited most often in both KI and DIS interviews, followed by crystal meth and cocaine.
 - Apart from crystal meth, other club drugs do not appear to have a significant presence in ME at this time.
- Key informant interviews asked respondents what guys what think about HIV/STD prevention. Frequent responses are noted below:
 - Little or no concern. Some causes of this could be safe sex fatigue; hopelessness; emerging hedonism; a perception that these disease are treatable; an attitude that if guy looks healthy, he's uninfected.
 - Some respondents said that MSM are in fact showing concern, including negative MSM and young MSM.
- Concerning sexual behaviors with infecting partners (DIS interviews only):
 - Nine of 13 knew the partner who infected them with HIV or GC (GC=5, HIV=4)
 - Bars were most frequently-cited venue for meeting infecting partners.

- About half the guys cited using alcohol or drugs when hooking up with infecting partner. All used alcohol. Some used other drugs too.
- Overall, 10 of the 13 guys reported using alcohol or drugs when hooking up for sex (with infecting and non-infecting partners).

3.3.4 Youth Risk Behavior Survey (Maine Department of Education, 2003)

Data regarding sexual behavior are collected from high school and middle school students in Maine using the CDC's Youth Risk Behavior Survey (YRBS). The following selected data elements from the 2003 YRBS report are related to sexual behavior:

- Thirteen percent of middle school students and 43% of high school students surveyed have had sexual intercourse. The rate of intercourse rises from 11% in the 7th grade to 59% in the 12th grade. Although the drop is not statistically significant, it is interesting to note that the rate of sexual intercourse for 12th grade students has dropped 11 percentage points since 2001.
- Overall, the rates of sexual intercourse for middle school and high school students have declined since 1997 – from 23% in 1997 to the current figure of 13%.
- While 3% of middle school students surveyed reported having had sexual intercourse with 4 or more people, 1 in 10 high school students (11%) reported the same. Male high school students and female high school students are equally likely to report this behavior.
- Seven percent (7%) of female high school students and 4% of male high school students surveyed have had either same-sex or bi-sexual contact. The rate of same-sex only contact for high school students was 2% for both males and females.
- Seven in ten middle school students (71%) who have had sexual intercourse reported using a condom during last sexual intercourse.

Conclusion

This document was produced to serve as a planning tool and to identify needs, set priorities, and project future needs for prevention and care efforts. Despite medical advances and focused HIV prevention and care programs, HIV continues to have a devastating impact on the health and well-being of Maine people. Because a significant number of new infections are occurring in Maine even as HIV-related deaths decline, HIV prevalence is slowly but steadily increasing. For this reason, continued work in prevention and care services have never been more important.

Sections of this Epi Profile dealing with HIV and STD data will be updated annually. Other sections pertaining to Maine population data and needs assessment activities will be updated as new data become available, likely on a biannual basis.

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